

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/919,229	ASAM, MICHAEL	
	<b>Examiner</b>	<b>Art Unit</b>	
	MINH D DAO	2682	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are \_\_\_\_\_.
3. ☒ The drawings filed on 31 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>07312001</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                               | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

### REASONS FOR ALLOWANCE

1. Claims 1-6 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the closest prior art of record are Groe (US 5,570,056), Tiller et al. (US 5,933,771), Long (US 6,026,286). Reference Groe teaches double current sources each connected between a respective one of the coupling nodes and a terminal for a reference potential; Reference Tiller teaches first and second difference amplifiers each including a coupling node and first and second branches, the branches each having first and second terminals and a transistor; Reference Long teaches a double current sources each connected between a respective one of the coupling nodes and a terminal for a reference potential. However, the above cited references, alone or in combination, fail to teach A circuit configuration for mixing a desired signal with an oscillator signal, comprising: terminals for the desired signal to be signal component and a of the desired signal; supplied with a first complementary second signal component terminals for the oscillator signal to be supplied with a first signal component and a complementary second signal component of the oscillator signal; first and second difference amplifiers each including a coupling node and first and second branches, each having first and second terminals and a the branches transistor; resistors each having a first terminal connected to the first terminal of a respective one of the branches and a second

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terminal connected to a respective one of the coupling nodes, and current sources each connected between a respective one of the coupling nodes and a terminal for a reference potential; the transistors amplifiers having control component of the desired the first branches of the difference terminals controlled by the first signal, and the transistors of the second branches of the difference amplifiers having control terminals controlled by the second component of the desired signal; load elements first branch each connecting the second terminal the of one of the difference amplifiers and the second terminal of the second branch of another of the difference amplifiers together to a terminal for a supply potential; and additional transistors each to be controlled by a respective one of the signal components of the oscillator signal, the additional transistors each connected between the terminal for the supply potential and the first terminal of a respective one of the resistors of the branches of the difference amplifiers. As specified in the claim.

Regarding claim 3, the closest prior art of record are Groe (US 5,570,056), Tiller et al. (US 5,933,771), Long (US 6,026,286). Reference Groe teaches double current sources each connected between a respective one of the coupling nodes and a terminal for a reference potential; Reference Tiller teaches first and second difference amplifiers each including a coupling node and first and second branches, the branches each having first and second terminals and a transistor; Reference Long teaches a double current sources each connected between a respective one of the coupling nodes and a terminal for a reference potential. However, the above cited references, alone or

in combination, fail to teach a circuit configuration for mixing a desired signal with an oscillator signal, comprising: terminals for the desired signal to be signal component and a complementary of the desired signal; supplied with a first second signal component terminals for the oscillator signal to be supplied with a first signal component and a complementary second signal component of the oscillator signal; first and second difference amplifiers each including a coupling node and first and second branches, each having first and second terminals and the branches a transistor; resistors each having a first terminal connected to the first terminal of a respective one of the branches and a second terminal connected to a respective one of the coupling nodes, and current sources each connected between a respective one of the coupling nodes and a terminal for a reference potential, each of the current sources being a switchable current source with an impressible current to be controlled in dependence upon a respective one of the components of the oscillator signal the transistors of the first branches of the difference amplifiers having control terminals controlled by the first component of the desired signal, and the transistors of the second branches of the difference amplifiers having control terminals controlled by the second component of the desired signal; and load elements each connecting the second terminal of the first branch of one of the difference amplifiers and the second terminal of the second branch of another of the together to a terminal for a supply difference amplifiers potential.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH D DAO whose telephone number is 703-305-5589. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VIVIAN C CHIN can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Minh Dao  
Art Unit 2682  
September 14, 2004 *MD*

*2 am*  
*9/20/04*  
LESTER G. KINCAID  
PRIMARY EXAMINER